CLAIMS

What is claimed is:

1. A thermosetting, non-polymeric coating composition comprising

at least one monomeric material having a plurality of active hydrogen groups,

at least one crosslinker reactive with the at least one monomeric material, and

a crystalline reaction product of an amine and an isocyanate.

2. A thermosetting, non-polymeric coating composition according to claim 1, wherein the active hydrogen groups are selected from carbamate groups, terminal urea groups, hydroxyl groups, carboxylic acid groups, and combinations thereof.

3. A thermosetting, non-polymeric coating composition according to claim 1, wherein the crosslinker is reactive with the crystalline reaction product.

4. A thermosetting, non-polymeric coating composition according to claim 1, wherein the at least one monomeric material having a plurality of active hydrogen groups comprises a carbamate-functional or terminal urea-functional monomeric material comprising at least two functional groups, at least one of which is a carbamate or terminal urea group that is the reaction product of (1) an

hydroxyl group of a first compound that is the result of a ring-opening reaction between a compound with an epoxy group and a compound with an organic acid group and (2) cyanic acid or a carbamate or urea group-containing compound.

5. A thermosetting, non-polymeric coating composition according to claim 1, wherein the at least one monomeric material having a plurality of active hydrogen groups comprises a carbamate-functional or terminal urea-functional material that is the reaction product of (1) a compound comprising a carbamate or terminal urea group and an active hydrogen group that is reactive with (2), and (2) a lactone or an hydroxy carboxylic acid.

6. A thermosetting, non-polymeric coating composition according to claim 1, wherein the at least one monomeric material having a plurality of active hydrogen groups comprises a carbamate-functional or terminal urea-functional material that is the reaction product of a first material (A) that is prepared by reacting (1) a compound comprising a primary carbamate or terminal urea group and an hydroxyl group and (2) a lactone or a hydroxy carboxylic acid reacted with a second material (B) that is reactive with hydroxyl groups on a plurality of molecules of compound (1), but that is not reactive with the carbamate or urea groups on compound (1).

7. A thermosetting, non-polymeric coating composition according to claim 1, wherein the at least one monomeric material having a plurality of active

hydrogen groups comprises a carbamate-functional or terminal urea-functional material that is the reaction product of (1) a first material that is the reaction product of a mixture including at least a polyisocyanate and an active hydrogen-containing chain extension agent with (2) a compound comprising a group that is reactive with said first material and a carbamate or terminal urea group or group that can be converted to a carbamate or terminal urea group.

8. A thermosetting, non-polymeric coating composition according to claim 1, wherein the at least one monomeric material having a plurality of active hydrogen groups comprises a carbamate-functional material having at least two carbamate groups and a hydrocarbon moiety with about 24 to about 72 carbon atoms,

9. A thermosetting, non-polymeric coating composition according to claim 1, wherein the amine is a primary monoamine.

10. A thermosetting, non-polymeric coating composition according to claim 1, wherein the amine is selected from the group consisting of benzylamine, ethylamine, propylamine, butylamine, pentylamine, hexylamine, methylbutylamine, ethylpropylamine, ethylbutylamine, and combinations thereof.

11. A thermosetting, non-polymeric coating composition according to claim 1, wherein the isocyanate comprises 1,6-hexamethylene diisocyanate.

12. A thermosetting, non-polymeric coating composition according to claim 1, further comprising fumed silica.

13. A method of coating a substrate with a coating composition, having steps of:

applying to the substrate a layer of thermosetting, non-polymeric coating composition comprising at least one monomeric material having a plurality of active hydrogen groups, at least one crosslinker reactive with the at least one monomeric material, and a crystalline reaction product of a primary monoamine and an isocyanate; and

curing the applied layer to produce a cured coating layer on the substrate.

14. A method according to claim 13, wherein the coating composition further comprises fumed silica.

15. A method according to claim 13, wherein the thermosetting, non-polymeric coating composition is applied as a clearcoat layer over a previously applied basecoat coating layer.